

# THE IMPACT OF WEBSITE DESIGN ON E-LOYALTY THROUGH CUSTOMERS' TRUST AND SATISFACTION

Focus on Information, Navigation and Visual Design

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### **Abstract**

The e-commerce field has increased continuously in the past years. There is a wider range of choices for the customers because e-commerce platforms are accessible from all over the world. Therefore, it is vital nowadays to have a website platform that provides a positive customer experience. It has been recognized in the earlier research that customers' trust and satisfaction are crucial for e-commerce growth.

This thesis investigates through a literature review the critical and the most important website design elements, Information Design (ID), Navigation Design (ND), and Visual Design (VD), which improve customers' trust and satisfaction. The thesis also evaluates the relationship between trust and satisfaction to customers' e-loyalty, both together and as separately.

This thesis confirms the relationship between website design elements to trust and satisfaction but also to e-loyalty. However, finding the differences between the importance of the different website design elements but also their various influences to trust and satisfaction. Information Design and Navigation Design elements have a more important influence on satisfaction than Visual Design elements have. Another finding was the relationship between satisfaction and trust. These findings will eventually influence customers' e-loyalty.

This thesis provides support especially to e-commerce vendors when creating or improving the website. There are earlier studies related to this topic, however, especially Visual Design needs further investigation. In addition, the relationship between satisfaction and trust needs more investigation in the future.

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**Keywords** website design, trust, satisfaction, e-loyalty, e-commerce

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# 1 Introduction

E-commerce platforms are accessible for customers from all over the world (Hamel & Sampler, 1998). This creates an enormous opportunity for vendors and benefits for customers, for example a wider range of choice and lower prices (Järvenpää et al., 1999). However, these benefits might not be sufficient criteria for a customer; they must trust the vendor before they make the order (Doney & Cannon, 1997). Based on Grand View Review (2020), retail e-commerce will continually increase from 2020 to 2027 at a compound annual growth rate of 9.4%. A positive customer experience in a website platform is vital nowadays because of the fierce competition in retail e-commerce, which leads e-tailers to investigate more effective ways to provide these experiences for customers (Shobeiri et al., 2018). Platforms should quickly attract customers and the shopping experience should be trustworthy, friendly, and easy for the customer (Nam et al., 2021). Furthermore, customer trust and customers' satisfaction are crucial factors for enhancing e-commerce growth. McKinney et al. (2002, p. 296) summarized this aptly: "in a turbulent e-commerce environment, Internet companies need to understand how to satisfy customers to sustain their growth and market share".

The online shopping experience depends on the information provided by retailers. Ease and fun of navigation are related to the design elements of the website, which in turn are related to customers' online shopping experience (Wolfinbarger & Gilly, 2001). In information systems research, when measuring information system success and use, the end-user satisfaction is an important focus area (Ives & Olson, 1984; Seddon, 1997). Szymanski and Hise (2000) found that the website design is an important determinant to enhance customer satisfaction. Many studies have recognized online trust as a crucial factor in customers' online purchase decisions (Järvenpää et al., 1999; Teo, 2002; Flavián et al., 2006). Trust is an important factor to investigate in the e-commerce environment: if the customers' trust the online vendor and they have a confidence that the vendor will be reliable and honest, they will more likely feel that it is easy to make a purchase and disclose sensitive information online (Wang & Emurian, 2005). Xu et al. (2003) found that providing high-quality websites and products which customer trusts will enhance customer satisfaction. This could be done by providing a positive experience and differentiated services for the customer which in turn will lead to positive purchase decisions (Xu et al, 2003). Earlier studies have found that the website design is one of the strongest factors to predict e-loyalty for e-consumers (Wolfinbarger & Gilly, 2003; Cyr, 2008; DeWulf et al., 2006).

## **1.1 Research questions and scope of research**

The main research problem of this thesis is how to create e-commerce which leads to sustained e-loyalty. The problem will be approached with the following research questions:

1. What are the critical and most important website design elements that lead to successful e-commerce?
2. How do these website elements influence customers' trust and satisfaction and eventually their e-loyalty?

This research will focus on how website design elements influence customers' trust and satisfaction. In addition, it shows how trust and satisfaction in turn result in customer e-loyalty in the e-commerce context. Website design is divided into Information Design (ID), Navigation Design (ND) and Visual Design (VD), and this research will answer how these factors influence trust and satisfaction in e-commerce. In addition, the study discusses how trust and satisfaction influence customers' intention to buy, to return to the website or to recommend the vendor. This research also critically evaluates how the website design elements influence trust and satisfaction in culturally different contexts.

## **1.2 Research method**

The research questions will be answered by conducting a thorough literature review. The selected literature will focus on the most cited articles and on some newer research related to this topic.

The most cited articles were found by searching articles which are related to website design, customers' trust and satisfaction in the e-commerce context and customer e-loyalty. In addition, also selected newer articles were investigated to ensure the relevance of this thesis. The newer articles were found using the same search criteria than the most cited ones. The intention to investigate the newer articles is to support findings from the older and most cited articles in this thesis.

Most of the articles were found by using Scopus and Google Scholar but also by looking up the references which are used in the relevant articles. In addition, the publications from the top authors in this specific field were investigated for this thesis. Articles were found by using keywords “e-commerce”, “e-loyalty”, “satisfaction”, “trust”, and “website design”.

### **1.3 Definitions of key concepts**

E-commerce can be defined as product selling, buying, and service through the internet or computer network (Wen et al., 2001). Trust means that customers will take actions despite of setting themselves vulnerable to the seller (Järvenpää et al., 1999) and through experience, the trust either weakens or strengthens (Yoon, 2002). Satisfaction is the result of an effectively designed website which engages and attracts customers (Cyr, 2008). It depends on the customer’s initial expectations and on the results, which she or he eventually obtains (Flavián et al., 2006). The term e-loyalty means that customers have the intention to buy, that they may return to the website or that they think they can purchase from there in the future, and also that they might recommend the vendor (Cyr, 2008; Flavián et al., 2006). Information Design, Navigation Design and Visual Design will be explained in detail in Chapter 3.

### **1.4 Structure of the research**

The structure of the thesis is as follows. Chapter 2 presents general findings from earlier studies. Chapter 3 presents more detailed findings from the literature; it will present e-loyalty in e-commerce and website design elements, which are divided to Information Design, Navigation Design and Visual Design. Chapter 4 contains the discussion and the conclusion of this thesis. After that, the limitations, and the summary of the main findings of this thesis are covered.

## 2 Factors influencing website design

This chapter will present the factors that influence website design based on earlier studies.

Cyr (2008) divided the website design to Information Design, Navigation Design and Visual Design. She investigated how these website design factors influenced customers' trust and satisfaction and thereby e-loyalty by conducting a survey and using partial least squares to analyze the responses of 571 participants from different cultures. Cyr (2008) found that there are cultural differences between website designs' influence on trust and satisfaction and eventually on e-loyalty which will be covered later in Chapter 4.

Flavián et al. (2006) studied the impacts of perceived usability to customers' e-loyalty to the website with a survey of 351 valid answers. They found that when the system is usable, the user's trust will increase which will positively impact website loyalty. At the same time, usability has an impact on the satisfaction of the customer, and it will also increase the website loyalty. Furthermore, they found that the user trust was partially dependent on the customers' satisfaction with the website.

DeWulf et al. (2006) investigated the impacts of website evaluations in more detail by the content, organization and technology to the website pleasure, and how the website pleasure will impact the website success, that is, the commitment, satisfaction, and trust. They defined content as the believability, timeliness, applicability, and the amount of information on the website. Organization was defined by layout, personalization level, structured coherence, clarity, and the download time. Furthermore, it was limited to design, interactivity, navigation, readability, and speed. Technology was defined as the technical functioning and features of the website. The researchers found a direct relationship between the website evaluations and the website success. In addition, pleasure was partially mediated by the evaluation-success relationship. Furthermore, they found that satisfaction is one of the key factors in predicting user commitment and trust. (DeWulf et al., 2006)

Recently, Nam et al. (2021) investigated customers' trust-behavioral intentions on e-commerce by conducting a cross-cultural comparison of the impact of e-service quality by conducting a survey with 1 154 responses from US and Korean college students. They also divided the website design into Information Design, Navigation Design and Visual Design. They found that despite the cultural differences, website design quality and

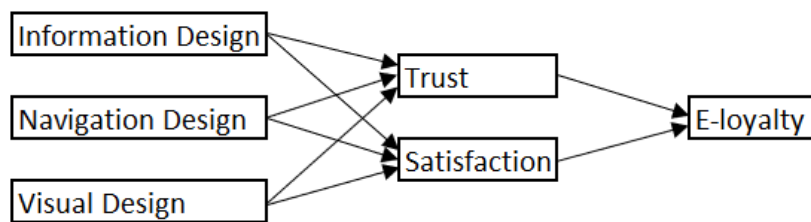


responsiveness in e-service quality are strongly related to trust, which influences customers' purchase intentions. Their result pinpointed that trust is a key mediator between the website design, responsiveness, and purchase intention in both countries.

Wang and Emurian (2005) conducted a survey with 181 respondents and used factor analysis involving 14 trust related interface design features. They found three underlying dimensions: visual, content and social-cue. They also found that the social-cue was not as significant as the other two dimensions, and those customers who had been cheated by a merchant before gave lower overall ratings than the rest of the customers.

### 3 Findings from the literature

To start with, this chapter describes e-loyalty in the area of e-commerce briefly. After that, this chapter is divided into Information Design, Navigation Design and Visual Design. The elements of Information Design are covered in this section. Then, how Information Design influences customers' trust is explained. After that, how the Information Design influences customers' satisfaction is discussed. Then this chapter covers the elements of the Navigation Design and how it will influence trust and satisfaction. The last part of this chapter includes the elements of Visual Design to customers' trust and satisfaction. Figure 1 visualizes the key construct and their connections. The findings from the literature are summarized in Table 1.



**Figure 1.** Construct model

### **3.1 E-loyalty in e-commerce**

E-loyalty means that customers have the intention to buy, they may return to a website or they think they can purchase from there in the future and also recommend the vendor (Cyr, 2008). To lessen the likelihood of the customer changing to another website, the e-commerce vendor should enhance the customer's familiarity with the website by increasing his/her skills to manage and control the website (Flavián et al., 2006). Based on a study by Flavián et al. (2006), if the customer is familiar with the website, they tend to limit their options and stay on that website even if the cost of searching on the internet is low and the customer might find a cheaper product by searching.

Furthermore, Yoon (2002) found that both trust and satisfaction have a significant relation to customers' intention to purchase. In addition, DeWulf et al. (2006) found that the user interface often impacts customers' intention to use the online service: if the design of the website is bad, the customer will not use the website. Enhancing the customers' pleasure toward the website enhances the customers' e-loyalty (DeWulf et al., 2006). Xu et al. (2013) also found that providing high-quality websites promotes customers' intention to purchase.

### **3.2 Information Design**

Information Design (ID) provides accurate (or inaccurate) information about products and services to a customer (Cyr, 2008). Information Design provides also accurate information about the domain of information and its location on the screen to the customer (Cyr, 2008). Based on Abels et al.'s (1997) study, websites that contained useful and current information were preferred by the customers. Many studies have also recognized the influence of Information Design to customers' trust and satisfaction levels (Cyr, 2008; DeWulf et al., 2006; Flavián et al., 2006; Wang & Emurian, 2005). Next, the elements of Information Design will be elaborated in more detail.

### 3.2.1 Elements of Information Design

Important elements of Information Design are information delivery and quality of the information (Katerattanakul & Siau, 1999; Zhang et al., 2000). McKinney et al. (2002) divided Information Design into five different parts:

1. Relevance
2. Timeliness
3. Reliability
4. Scope
5. Perceived usefulness

Firstly, **relevance** refers to information, which is relevant, clear, and good (McKinney et al., 2002). In addition, Bailey, and Pearson (1983, p. 542) described it as “the degree of congruence between what the user wants or requires and what is provided by the information products and services”. Secondly, **timeliness** presents how current the information is (McKinney et al., 2002). Abels et al. (1997) also divided timeliness of the information to positive features of the content. Thirdly, **reliability** means the degree of accuracy, dependability, and consistency of the information (McKinney et al., 2002). Bailey and Pearson (1983) referred to the output information’s consistency and dependability when they used the term reliability. Fourthly, **scope** refers to how extensive and detailed information the website provides, and also to the range of information on the website (McKinney et al., 2002). Lastly, **perceived usefulness** refers to the users’ own evaluation of the information and the likelihood how it enhances their purchasing decisions (McKinney et al., 2002). Bailey and Pearson (1983) described it as users’ own evaluation of costs - including money, time, manpower and opportunity, and perceived usefulness of the information, i.e. benefits which were derived from the support.

Wang and Emurian (2005) used the term content design instead of Information Design, and divided content design into five different parts. Content design refers to the information components that are included in a website and are either textual or graphical. The first part of content design is display of brand-promoting information, which includes prominent company logo or slogan, in addition to the main selling point. The second part is up-front disclosure, which includes all aspects of customers’ relationships, for example, company competence, security, privacy, financial and legal concerns. The third part includes the display of seals of approval or third-party

certificates, for example TRUSTe or VeriSign. The fourth part is comprehensive, correct, and current product information use on the website. The last part was the use of relevant domain name on the website (Wang and Emurian, 2005.)

### 3.2.2 How Information Design influences trust

Many studies earlier have shown that Information Design influences website trust (DeWulf et al., 2006; Flavián et al., 2006; Wang & Emurian, 2005; Nam et al., 2021; Cyr, 2008). According to Flavián et al. (2006) trust is related to information transparency which can be improved by greater information usability for customer. DeWulf et al. (2006) found that adequate and good information on website developed customers' trust level toward the website. In addition, Kourser et al. (2018) found that consumers' trust can be improved by providing product information which is accurate. Furthermore, Rianto et al. (2015) found that one of the factors that promotes customers' trust toward a website was trustworthy information about the vendor.

Providing a customer with accurate information for resolving a problem in case the customer is facing difficulties when using the website and during the order process will enhance customers' trust toward the website as well (Cheskin, 1999). In addition, Rianto et al. (2015) found that customers preferred accurate information but also help and documentation were vital in case they face difficulties with the transaction process.

Wang and Emurian (2005) discovered that content design, i.e. display of brand-promoting information, up-front disclosure of all aspects of the customer relationship, display of seals of approval or third-party certificate, use of comprehensive, correct, and current product information, and use of a relevant domain name, has significant relation to trust. Furthermore, Yoon (2002) recognized that third-party recommendations enhance e-commerce's trust worth, for example VeriSign and TRUSTe, which are popular and recognizable logos, enhanced customers' trust toward the website.

Nam et al. (2021) found that high quality website design, including detailed and transparent information, gained trust among website customers, which eventually contributed to growth in sales of apparel in online markets. When the customer understands all the contents on the website, it improves customers' trust levels, which eventually increases the likelihood of purchasing on the website (Flavián et al., 2006).

### 3.2.3 How Information Design influences satisfaction

In addition to the influence of Information Design on customers' trust, many studies have also recognized its influence on customers' satisfaction (Cyr, 2008; DeWulf et al., 2006; McKinney et al., 2002). According to DeWulf et al. (2006), adequate information will increase the customers' satisfaction level. Szymanski and Hise (2000) found that the product information is an important determinant in forming customers' satisfaction and it has a significant role in influencing e-satisfaction levels of the customer. However, they also found that product information has a less significant role in e-satisfaction than in financial security or site design (Szymanski & Hise, 2000).

In addition, based on McKinney et al. (2002) it is vital to enhance customers' satisfaction through Information Design, information content and website performance. It can be enhanced by retrieving and delivering product information. They also found that enhancing customers' satisfaction will eventually lead to a successful website. Richer, i.e. more extensive and higher quality, information leads to better purchasing by the customer which in turn improves customers' satisfaction with the website (Peterson et al., 1997).

According to McKinney et al. (2002) Navigation Design, which is covered in the next chapter, has impacts on Information Design. Even if the information content is good, the customer will feel dissatisfied if searching for the needed information is difficult (McKinney et al., 2002). Alternatively, adequate and good quality information which is accessible for the customer on the website leads to a higher level of satisfaction (DeWulf et al., 2006).

## 3.3 Navigation Design

Navigation Design (ND) can be described as the logic behind a website helping (or hindering) customers to find desired items or services through accessing different sections of a website (Cyr, 2008). Oliveira et al. (2017) described it as an ease of navigation to help customers to find product information. McKinney et al. (2002) portrayed Navigation Design as a link between the customers and the needed information. Navigation Design is partially linked to Information Design, because poor Navigation Design will influence customers' search for information. This in turn can

make the customer feel dissatisfied even if the content and information is rich (McKinney et al., 2002).

Many studies have recognized Information Design as a factor of trust (Nam et al., 2021; Flavián et al., 2006), even if not every study has found it to be a significant factor (Yoon, 2002; DeWulf et al., 2006). There has also been discussion of cultural differences regarding whether or not the Navigation Design influences customers' trust (Cyr, 2008). However, Navigation Design has been recognized to be one of the factors influencing customers' satisfaction in many earlier studies (Cyr, 2008; Yoon, 2002; Rianto et al., 2015; DeWulf et al., 2006)

### 3.3.1 Elements of Navigation Design

As mentioned before, Navigation Design has partial influence also on Information Design: whether or not the customer feels that the information searching is easy and that they find all the information easily from the website (McKinney et al., 2002). If the customer feels that the website is familiar and they have acquired the skills to manage and control it, the likelihood of the customer changing to another website decreases (Flavián et al., 2006).

Wang and Emurian (2005) divide the overall organization and accessibility of displayed information on the website into four parts. The first part is implementation of easy-to-use navigation which includes simplicity and consistency. The second part is use of accessible information which mean absence of broken links or missing pictures. The third part is use of navigation reinforcement and help tools for customers for searching, for example, guides, tutorials and instructions. The last part is the application of page design techniques, for example white space, margins, and strict grouping.

In addition to the importance of customers feeling that they have the control over what they are doing and that they know where they are all the time, a website must have understandable structure, functions, interface, and contents to improve usability. Customers must have the feeling that the website is easy to use at the moment they arrive there. Navigation Design helps to improve both usability and the customers' ability to find items more quickly. Navigation Design includes the time required and the actions it takes to obtain the desired results. Successful Navigation Design does not depend only

on the time that customers have to spend managing the website but also on the facilities the website provides for its customers (Flavián et al., 2006.)

Rianto et al. (2015) divided Navigation Design into nine sections; product catalogue, product categorization, product searching, transaction order, transaction payment, transaction delivery, help and documentation, feedback, and error handling. They found that attractive catalogues were one of the most important requirements to support customers with transactions. Furthermore, they found that if this requirement was not fulfilled, the customer closed the website or cancelled the transaction. They associated the transaction with the elements of Navigation Design because the transaction process needs good navigation functionality for the customers.

However, the elements of good Navigation Design differ depending on the culture of the customers (Simon, 2001; Cyr, 2008). Navigation that made sites simpler to use and enhanced the movement was preferred in the European and individualistic cultures (Simon, 2001). In addition, for example Germans have a moderately high uncertainty avoidance and therefore navigation should prevent the user from getting lost (Cyr, 2008). On the other hand, collectivist cultures preferred navigation that helps changing the site's appearance while not being particularly concerned with movement on the website (Simon, 2001). Rianto et al. (2015) found that the first step for Indonesian students when they arrived on a website was mostly to click on the menu section where there is more detailed information, particularly about the vendor. This shows that Indonesian students always looked at the reputation of the vendor before proceeding with the transaction.

### 3.3.2 How Navigation Design influences trust

Navigation Design has been recognized to be one of the factors related to customers' trust toward the website (Nam et al., 2021; Flavián et al., 2006). According to Cheskin (1999), the customer finding what she or he is looking for, is one of the factors which enhances customers' trust. Nam et al. (2021) found that high quality website design, which included the navigability of the website, improved customers' trust in the different cultures.

When the customers understand all the tasks that they have to do before making the order, the trust level increases, which in turn decreases the likelihood of not purchasing

from that website (Flavián et al., 2006). When the customer knows where they are at any time and what can be done next, the customer has a sense of security which is related to self-confidence (Flavián et al., 2006). Thus, the sense of security in users can be established by greater usability. At the same time customer trust on the website can be improved by greater self-confidence (Flavián et al., 2006).

However there have been studies where Navigation Design did not significantly correlate with web trust. Yoon (2002) found that there is no positive correlation between Navigation Design and trust. DeWulf et al. (2006) found in their study that website organization did not significantly affect customers' trust. However, they found that a higher level of pleasure lead to a higher level of satisfaction. Furthermore, it resulted in developing trust by having a well-organized website (DeWulf et al., 2006). According to Cyr's (2008) study, there are cultural differences in whether or not the Navigation Design influences customers' trust: Navigation Design influenced trust in China and Canada but not in Germany.

### 3.3.3 How Navigation Design influences satisfaction

Navigation Design's influence on customers' satisfaction has been recognized in many earlier studies (Cyr, 2008; Yoon, 2002; Rianto et al., 2015). Also, DeWulf et al. (2006) found that a well-organized website will increase the customers' satisfaction. Rianto et al. (2015, p. 366) pointed out that "a good website should enable its users to operate it easily, comfortably, and enjoyably", which in turn influences the customers' satisfaction toward the website.

Tan and Wei (2006) represented that wayfinding on a website is very important, even more important than in the real-world environment. Wayfinding has been defined as "the ability to find a way to a particular location in an expedient manner and to recognize the destination when reached" (Peponis et al., 1990). Enhancing features like hyperlinks, navigation bars and sitemaps on the Navigation Design increases a customer's ability to browse more flexibly (Tan & Wei, 2006). However, this might affect the customers' satisfaction negatively. These enhanced features make the learning process more difficult for the customers, and they might not remember all the steps they have taken on the website (Tan & Wei, 2006). Tan & Wei also found that if the customer does not find back to the main page, it will lower their satisfaction ratings. However, the



influence on the overall satisfaction was small since the customers found what they were looking for after a few trials and errors.

In addition, one major result of Yoon's (2002) study was that navigation functionality significantly affected satisfaction. According to DeWulf et al. (2006), customer's control of the shopping experience has impacts on customers' satisfaction through increased pleasure and convenience of shopping. Tan & Wei (2006) found that customers' needs should be the focus when developing a website. The successful website includes the customer being able to use the website effectively while feeling satisfied during use.

Rianto et al. (2015) found that a website that has good Navigation Design, such as easy product search, price comparison and payment method, is more satisfactory to the customers, and that they are more willing to revisit the e-commerce. The core idea is that the design of the website should support the customer in finding what they need and thus increase the customers' satisfaction level while accomplishing their tasks on the website (Abdelmessih et al., 2001).

### **3.4 Visual Design**

Cyr (2008, p. 53) described Visual Design (VD) in the following way: "Elements of visual design deal with balance, emotional appeal, aesthetics, and uniformity of the Web site's overall graphical look". DeWulf et al. (2006) included graphics, audio, video, and background of the website to Visual Design. Flavián et al. (2006) found that color has an impact on the customer's feelings of pleasure.

There is only a small amount of studies related to the influences of Visual Design on customers' trust or satisfaction. However, there are studies that have recognized Visual Design as one of the factors influencing customers' trust (DeWulf et al., 2006; Nam et al., 2021; Wang & Emurian, 2005). Some research has recognized the cultural differences in whether or not the Visual Design influences customers' trust and what kind of Visual Design is the best for each culture (Cyr, 2008). The relationship between Visual Design and customers' satisfaction has been varying. Some research has recognized the influences of Visual Design on satisfaction (Cyr, 2008; DeWulf et al., 2006). Respectively, other studies did not find it to be the most significant factor influencing customers' satisfaction (Rianto et al., 2015).

### 3.4.1 Elements of Visual Design

DeWulf et al. (2006) included graphics, audio, video, and background into the elements of Visual Design. Cyr (2008) contained colors, photographs, shapes, and font, into the Visual Design's elements. In addition, Cyr (2008) found that it mattered which color the website producer chose to use on their website depending on the customers' culture. Cyr (2008, p. 54) found that there are for example differences between China and the United States: "Red means happiness in China but danger in the United States". Despite the culture, Nielsen and Tahir (2002) pointed out that maximum color contrast made it easier to read for example simple black text over a white background, which makes a website more reader friendly. McKinney et al. (2002) pointed out that visual appeal is part of good website usability. In addition, they explained interactivity with personal design, which included the shopping cart feature of the website. In other words, website design depends on what the customer is looking for and the website will be personalized for that use.

Wang and Emurian (2005) divided the factors that give the first impression to the customer when they arrive to the website into three different parts. Firstly, the use of half-screen-sized clip art or picture that is three-dimensional and professional. Secondly, the symmetric use of moderate pastel color in low brightness and a cool tone. Thirdly, the use of high-quality photographs that are well chosen. These three factors will give a good impression to the customers when they arrive to the e-commerce.

DeWulf et al. (2006) suggested that websites could use more rich formats, like audio, video and page links, in addition to just text and photographs. In addition, Butkiewicz et al. (2011) pointed out that images, audio, video, and executable files that allow users to run applications on their browser have recently become included to the contents of a website. DeWulf et al. (2006, p. 436) explained: "Further, using interesting themes, flashy graphics, or appealing site design may make a web site experience entertaining and increase visitors' likelihood to conduct business. Personalization is also believed to enhance marketing outcomes in online environments."

Rianto et al. (2015) found that accurate information and help and documentation were vital facilities on the website in case a customer is facing problems during the transaction process. They pointed out that support facilities, which were preferred by customers, help the customer in case they are facing difficulties during the transaction

process. For example, video format of instructions or diagram block would help the customer when they are facing these problems. In addition, Rianto et al. (2015) pointed out that Visual Design should be simple and include contrast in color and attractions for the customer because they are related to aesthetic and emotional appeal which in turn increased the customers' comfort.

### 3.4.2 How Visual Design influences trust

DeWulf et al. (2006) showed that having a good state-of-the-art design on the web page led to a higher level of pleasure which resulted in customers developing their trust. However, Cyr (2008) found some differences between cultures in relation to the priority of factors that enhance customers' trust. She found that in collective cultures, such as the Chinese culture, the impact of Visual Design on trust is valued more than in German or Canadian cultures.

According to Wang and Emurian (2005), professionalism in design is a positive factor to evoke customers' trust. They validated this by saying that "web site features that could evoke professional feelings, such as the use of online sales chat, three-dimensional flash images, and clear and thorough presentations of merchandise images", which will eventually lead to a higher level of customers' trust (Wang & Emurian, 2005, p. 52).

Nam et al. (2021) found that the high quality of website design, which included aesthetics and graphical and textual features enhanced the customer trust toward the website in the different cultures. They summarized it as follows: "High-quality, visually appealing website design is a powerful leverage in an e-commerce environment and should be a central variable for global e-tailers to consider increasing the trust of e-consumers across countries" (Nam et al., 2021, p. 71).

### 3.4.3 How Visual Design influences satisfaction

The results of the previous studies have been mixed in regards to whether or not the Visual Design has influences on customers' satisfaction. In Cyr's (2008) study Visual Design resulted in satisfaction in all cultures of that study. In addition, DeWulf et al. (2006) found that a good state-of-the-art web page would provide more satisfaction to the customer. On the other hand, Rianto et al. (2015) found that Navigation and

Information Design were preferred over Visual Design in the case of investigating how website design influences customers' satisfaction.

Rianto et al. (2015) found that the layout or color in Visual Design were not the biggest concerns to customers. In addition, they found that a simple layout and color, as well as general symbols, which enhance the personalization of the website should be provided. With general symbols, customers preferred to represent online transactions. However, they indicated that "Visual Design could be one factor to let the users stay longer on a website" (Rianto et al., 2015, p. 75).

Rianto et al. (2015) also found that customers preferred Navigation Design and Information Design over Visual Design. They preferred a simple layout, easy-to-use navigation, and trustworthy information, which has influenced the earlier covered customers' trust (Rianto et al., 2015).

**Table 1.** Summary of findings

Website design element	Customers' feeling	Findings	Supporting literature
Information Design (ID)	Trust	- Accurate information - Third-party certificate - High-quality website design	DeWulf et al., 2006; Cheskin, 1999; Rianto et al., 2015; Yoon, 2002; Nam et al., 2021
	Satisfaction	- Adequate information - Product information - ND influences on ID satisfaction	DeWulf et al., 2006; Peterson et al., 1997; Szymanski & Hise, 2000; McKinney et al., 2002
Navigation Design (ND)	Trust	- Navigation, understanding tasks - Cultural differences whether or not ND influences trust	Flavián et al., 2006; Cyr, 2008; Nam et al., 2021
	Satisfaction	- Well-organized and manageable website - Easy, comfortable and enjoyable to operate - Wayfinding (might affect negatively as well)	DeWulf et al., 2006; Rianto et al., 2015; Tan & Wei, 2006; Yoon, 2002; Abdelmessih et al., 2001
Visual Design (VD)	Trust	- Good state-of-the-art - Cultural differences - Professional and visually appealing	DeWulf et al., 2006; Cyr, 2008; Wang & Emurian, 2005; Nam et al., 2021
	Satisfaction	- Good state-of-the-art - Simple layout and colors - ND and ID affects more than VD	Cyr, 2008; DeWulf et al., 2006; Rianto et al., 2015

## **4 Discussion and conclusions**

The thesis has now reviewed the previous literature regarding the factors influencing e-loyalty. The key findings will be discussed next. At the end, the limitations, conclusions, and proposals for future research are presented. The results are summarized in Table 2.

### **4.1 How trust and satisfaction together influence e-loyalty**

E-loyalty means that customers have the intention to buy or they may return to the website. Alternatively, that they think they can purchase from there in the future or that they might recommend the vendor (Cyr, 2008). According to DeWulf et al.'s (2006) study, a higher level of pleasure led to a higher level of satisfaction and trust. It also led to higher levels of commitment of the customers, which refers to e-loyalty of the customer. Therefore, for enhancing customers' commitment and thus their e-loyalty, website providers should concentrate on producing a pleasurable experience for their customers.

Flavián et al. (2006) found that satisfaction is one factor that influences customers' trust. In addition, DeWulf et al. (2006) found that a higher level of trust and commitment toward the website could be earned if the customers are satisfied with the website. Furthermore, one of the major results of Yoon's (2002) study was the high correlation between website trust and satisfaction. Consequently, improving the customers' satisfaction will enhance customers' trust as well. Thus, e-commerce providers should pay attention to improving the customers' satisfaction levels, which at the same time increase customers' trust. Therefore, improving Information Design, Navigation Design and Visual Design elements that enhance customers' satisfaction will increase their trust as well. Information Design elements such as the quality of information and providing accurate and rich product information are found to improve customers' satisfaction. Navigation Design elements, like well-organized e-commerce, which is easy, comfortable, and enjoyable to use, enhanced customers' satisfaction. In addition, Visual Design elements like a simple layout and colours as well as general symbols increased customers' satisfaction. However, based on the results of this literature review, Information Design and Navigation Design elements influence customers' satisfaction more than the Visual Design.

However, there are cultural differences between whether trust and satisfaction influence e-loyalty or not. Based on Cyr's (2008) study, the impact of trust is stronger than the impact of satisfaction on e-loyalty for the German and Chinese. For Canadian customers, satisfaction has a bigger influence on e-loyalty than trust does. Therefore, trust is a more important factor in e-loyalty in cultures where people avoid uncertainty more (Cyr, 2008.) Thus, website providers should pay attention to in which culture their customers are located. Based on that they can choose whether to concentrate more on improving customers' satisfaction or their trust, if they have to make a choice.

Based on the results of this literature review German and Chinese value trust more than satisfaction. Thus, German and Chinese vendors should provide useful, accurate and transparent information for the customer. This includes trustworthy information about the vendor, a third-party certificate and a relevant domain name. In addition, vendors should concentrate on providing the customer with an understanding of all the steps they have to take before making the order by providing high-quality navigation on the website. At the same time the customer understands where they are at any point and what they should do next. This increases their self-confidence. However, Navigation Design elements only influence trust if the customers are Chinese, not German. In addition, Chinese customers value Visual Design elements more than German customers in regard to an enhanced trust toward the website. Thus, aesthetics and graphical and textual features enhance trust more with Chinese customers. The main finding when looking at all three website elements, Information Design, Navigation Design, or Visual Design, is that in the case of enhancing e-loyalty, Canadian customers prefer satisfaction, German customers prefer trust, especially in the case of Information Design, and Chinese customers prefer trust.

## **4.2 How trust influences e-loyalty**

Many studies have recognized trust as one of the factors which influencing customers' e-loyalty (Cyr, 2008; Flavián et al., 2006; Lee et al., 2000; Quelch & Klein, 1996; Järvenpää et al., 2000). If the customer does not trust the website provider, they will not make purchases (Ang & Lee, 2000). According to Truste (2003, as cited in Flavián et al., 2006), 49% of customers will not make the purchase if they do not trust the website. Thus, it is vital to enhance customers' trust toward the website when an e-commerce vendor would like to increase their customers' e-loyalty. Based on the findings of the literature review,

the clearest relationship between website design elements and trust was the relationship between Information Design and trust. Thus, e-commerce vendors should consider especially Information Design but also Navigation Design and Visual Design of the website when they want to enhance customers' trust toward the website.

Low usability can lead to errors where the customer orders undesired products or has problems with the payment. These errors might lead to increased customer distrust and the customer may not order from the website in the future (Flavián et al., 2006). Therefore, it is highly important for e-commerce to focus on the website's perceived usability through Information Design, Navigation Design, and Visual Design elements.

There might be cultural differences in whether trust influences e-loyalty or not. Cyr's (2008) study shows that trust results directly to e-loyalty in the collectivist Chinese culture but not in Canadian or German cultures. However, Cyr (2008) also found that trust is significantly related to e-loyalty, when she analyzed the sample without cultural separation as a one sample. Therefore, Cyr's (2008) study shows that trust is importantly related to e-loyalty, regardless of culture. However, e-commerce vendors should pay more attention to trust especially in cultures where trust is significantly related to e-loyalty, i.e. in collectivist cultures like the Chinese culture.

In addition, Rianto et al. (2015) found that for most Indonesian students the first step when arriving on a website was to click on the menu section that has more detailed information, particularly about the vendor. Students from Indonesia always looked at the reputation of the vendor before they proceeded with the transaction. Rianto et al.'s (2015) study supports Cyr's (2008) study, and we can say that e-commerce vendors that operate in a collectivist culture should pay more attention to customers' trust when it comes to increasing their e-loyalty. Nevertheless, e-commerce vendors that have customers from individualistic cultures should also take notice of customers' trust, just not as much as in collectivist cultures.

However, Nam et al. (2021) found that trust is a key driver in customers' intention to purchase in both the U.S. and South Korea. This is inconsistent with Cyr's (2008) study because South Korea is considered a collectivist culture similar to China (Lee et al., 2007). However, there are differences in research methods and e-commerce field has been developed in the past years as well which might make these studies inconsistent. Furthermore, Cyr (2008) also found that trust is importantly related to e-loyalty regardless of culture. Thus, we can say trust is an important element to enhance

customers' e-loyalty regardless of the culture. However, e-commerce vendors should bear in mind that it is very important to enhance customers' trust especially in collectivist cultures.

### **4.3 How satisfaction influences e-loyalty**

Many studies have found that satisfaction is one of the factors resulting in customers' e-loyalty (Cyr, 2008; Flavián et al., 2006; Yoon, 2002). Based on Yoon's (2002) study, satisfaction has an impact on customer's purchase intention. E-loyalty is a result of continuous customer satisfaction in e-commerce (Cyr, 2008). Thus, customers' satisfaction should be taken into account when creating a website.

When the customer feels that the website has fulfilled the agreed conditions including satisfaction, it increases their predisposition to develop the relationship. At the same time, the customer will not change to an alternative website as easily. Therefore, the customer's intentions to buy in the future, visit the site more frequently and spend more money and time on the website will increase (Flavián et al., 2006.) Hence, increasing customers' e-loyalty by increasing their satisfaction results in higher sales for the e-commerce vendors.

However, cultural differences have been found: satisfaction is a more important factor for Canadian customers than it is for German or Chinese customers (Cyr, 2008). Results from Cyr's (2008) study show that trust is a more important factor than satisfaction in increasing e-loyalty in China. For German participants, satisfaction and trust were equally important in increasing e-loyalty. However, satisfaction is a more important factor than trust for Canadian participants in the case of enhancing the e-loyalty (Cyr, 2008). Thus, especially in cultures like Canada and Germany, enhancing satisfaction increases e-loyalty which in turn results in more purchases. However, e-commerce vendors should pay less attention to satisfaction than to trust in collective cultures like China.



**Table 2.** Summary of results

Relationship to e-loyalty	Results
Trust & Satisfaction	<ul style="list-style-type: none"><li>- E-commerce vendor should concentrate to produce a pleasurable experience</li><li>- Paying attention to satisfaction results in a higher trust as well</li><li>- Website design elements should vary depending on customer culture</li></ul>
Trust	<ul style="list-style-type: none"><li>- E-commerce vendor should especially consider ID</li><li>- Emphasize usability in ID, ND, VD</li><li>- Important element regardless the culture</li><li>- Highly important element in collectivist cultures</li></ul>
Satisfaction	<ul style="list-style-type: none"><li>- Continuous satisfaction should be taken into account</li><li>- Increasing satisfaction results in a higher sales</li><li>- Cultural differences whether the satisfaction or trust is more important</li><li>- Trust is more important than satisfaction in collectivist cultures</li></ul>

#### **4.4 Limitations and future research**

This literature review concentrated on website design through Information Design, Navigation Design, and Visual Design and on how they influence customers' trust and satisfaction as well as the influence of trust and satisfaction on e-loyalty. Cyr (2008) found that the relationship between trust and e-loyalty differs between in cultures. There might be other characteristics than Information Design, Navigation Design, and Visual Design that affect website design (Cyr, 2008). However, this research concentrated only on these three factors.

Another limitation that might occur in this research is that the studies reviewed have different participants. These participants have different backgrounds. They have, for example, different experiences of website use. This might affect especially the results regarding Navigation Design because one of the elements was ease-of-use and the time that it takes to purchase the desired item. Thus, participants with more experience of website use might have an easier experience using the website than participants who are less experienced.

In addition, many of the articles in the literature review were from early 2000's when the e-commerce field started to increase. Because the technology has been

developed and the customers' experience to use e-commerce platforms have been increased in the past years, the results might partly differ nowadays.

To conclude, Information Design, Navigation Design, and Visual Design are good factors in estimating customers' trust and satisfaction. Furthermore, trust and satisfaction are good factors in estimating e-loyalty. Especially the main finding of how satisfaction influences not only e-loyalty but also customers' trust was interesting. Thus, e-commerce providers should pay more attention to improving elements that increase the customers' satisfaction which in turn increases the customers' trust toward the website. In addition, they should pay more attention to Information Design and Navigation Design elements which have a bigger influence on the satisfaction of the customers than what Visual Design has.

However, especially Visual Design needs further investigation in the future because there are a small number of studies that investigate Visual Design elements and especially the influence of Visual Design elements on customers' trust and satisfaction. Furthermore, factors other than trust and satisfaction that are related to e-loyalty should be investigated more in future research. In addition, the relationship between satisfaction and trust needs more investigation in the future as well.

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